

APPENDIX C

Major Land Resources Areas

MAJOR LAND RESOURCE AREAS

Northern Rocky Mountains

Idaho, Montana, Oregon, Washington, and Wyoming

282,650 km² (109,130 mi²)

Land use: Nearly all this area is federally owned and administered by the Forest Service, U.S. Department of Agriculture, and the Bureau of Land Management, Department of the Interior. Most of the privately owned land is controlled by large commercial timber companies. All the forested areas are used as wildlife habitat, for recreation and watershed, and for timber production. Meadows on the upper mountain slopes and crests above timberline provide summer grazing for livestock and big game animals. Mining is an important industry in Idaho and in western Montana. Dairy and livestock farms are important enterprises in the west. Less than 2 percent of the area is cropped. Forage, grain, peas, and a few other crops are grown in some valleys.

Elevation and topography: Elevation is mainly 400 to 2,400 m, but it is almost 3,000 m on some mountain peaks. Some areas in Montana and Wyoming are at an elevation of 2,100 to 3,000 m, and mountain peaks are almost 4,300 m. High mountains having steep slopes and sharp crests are cut by narrow valleys, most of which have steep gradients. Lakes are common, especially in glaciated areas.

Climate: *Average annual precipitation:* Mainly 625 to 1,525 mm, increasing with elevation, but almost 375 mm in the western part of the area and almost 2,550 mm in high mountains. Most of the precipitation during fall, winter, and spring is snow. Summers are dry. *Average annual temperature:* 2 to 7 C in most of the area, but it is 8 C or more at low elevations. *Average freeze-free period:* 45 to 120 days, decreasing with elevation, and as long as 140 days in low valleys of Washington. Frost occurs every month of the year on high mountains; some peaks have a continuous cover of snow and ice.

Water: Moderate precipitation and many perennial streams and lakes provide ample water. Streams and reservoirs supply water to adjoining MLRA's for irrigation and other uses. Springs and shallow wells in the valleys provide water for domestic use and for livestock. Elsewhere, ground-water supplies are small and mostly untapped.

Soils: Most of the soils are Ochrepts and Andepts. They have a frigid or cryic temperature regime. Shallow to moderately deep, medium textured and moderately coarse textured Cryochrepts (Jughandle and Holloway series) and Xerochrepts (Waits and Moscow series) are on mountain slopes. Cryandepts (Huckleberry, Truefissure, and Coerock series) are on ridges with thin layers of volcanic ash. Stony Cryorthents (Tamely series) and areas of rock outcrop are on peaks and ridges above timberline. Detailed soil survey information is lacking in most of the area.

Potential natural vegetation: This area supports conifer forests. Forests of western white pine, ponderosa pine, lodgepole pine, western redcedar, western larch, hemlock, Douglas-fir, subalpine fir, and spruce are common. Alpine grasses, forbs, and shrubs and scattered stands of subalpine fir, spruce, and whitebark pine grow on high mountains of Montana and Wyoming.

MAJOR LAND RESOURCE AREAS

Northern Rocky Mountain Valleys

Idaho, Montana, and Washington

32,320 km² (12,480 mi²)

Land Use:

Nearly all this area is in farms and ranches. As much as one-third of the land in some valleys is irrigated. Potatoes, sugar beets, and peas are important cash crops, but a larger acreages in hay, grain, and pasture for livestock feed. In places where precipitation is adequate, the land is dry-farmed to wheat. One-third to one-half of the area is range of native grasses and shrubs. Beef cattle and sheep are the principal livestock, but dairying is an important enterprise near the larger towns. Much of the area in northern Idaho is forested, and elsewhere many steep and stony soils are in woodland. These forests are of value to the lumber industry and are also grazed.

Elevation and Topography:

Elevation ranges from 600 to as much as 2,100 m; the highest is in south western Montana. The deep valleys bordered by mountains are mostly north-south trending. In the valleys, nearly level, broad flood plains are bordered by gently sloping to strongly sloping terraces and fans. In many places the valleys have been modified somewhat by glaciation, and in the north, lacustrine sediments cover much of the valley floors.

Climate:

Average annual precipitation 300 to 400 mm in most of the area, less than 250 mm in Montana, and 850 mm in northern Idaho. Precipitation is fairly evenly distributed throughout fall, winter, and spring but is low in summer. Most of the precipitation in winter is snow. Average annual temperature 4 to 8 C. Average freeze-free period--100 to 120 days in much of the area, but it is 80 days or less at the highest elevations and 130 days or more at the lowest.

Water:

Perennial streams flowing into the area from surrounding mountains are the principal source of water. The amount usually is adequate but depends on the snow accumulation in the mountains. Ground water is abundant in the deeper unconsolidated fill materials, and some is used for irrigation. Precipitation is adequate for some dryfarming at higher elevations and throughout the area in northern Idaho.

Soils:

The dominant soils are mostly Orthids, Borolls, and Argids. They are medium textured to fine textured and mainly well drained and have a frigid or, at higher elevations, a cryic temperature regime. At the lower elevations, deep and moderately deep Calciorthis (Crago and Musselshell series), Haploborolls (Bitterroot and Grantsdale series), and Argiborolls (Martinsdale series) are on alluvial fans and terraces. Natrargids (Round Butte series) are on lacustrine fans and terraces, and Fluvents are on alluvial flood plains and low terraces. At the higher elevations, mostly deep, well drained to somewhat poorly drained Cryoborolls (Amsterdam, Bozeman, Bridger, and Gallatin series) are on alluvial terraces and fans, and Aquepts and Aquepts are adjacent to drainageways and in undrained depressions.

Potential Natural Vegetation:

This area supports conifer forests and grassland vegetation. Bluebunch wheatgrass, rough fescue, Idaho fescue, and bearded wheatgrass are the major species of the grassland in the valleys and foothills. Douglas-fir, ponderosa pine, grand fir, western redcedar, western hemlock, pinegrass, common snowberry, mallow ninebark, and white spirea are the major forest species.